

# INTERNATIONAL YEAR OF ASTRONOMY 2009



## Dark Skies Awareness Programs for the U.S. International Year of Astronomy

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### Overview

"Dark Skies Awareness" is one of 11 Global Cornerstone Projects and one of 7 major U.S. themes during the 2009 International Year of Astronomy (IYA2009). The goal of "Dark Skies" is to raise the level of public knowledge about adverse impacts of excess artificial lighting on local environments and help more people appreciate the ongoing loss of a dark night sky for much of the world's population. Toward this end, partners in dark-sky and environmental education worldwide are promoting a range of programs and resource materials developed by the "Dark Skies Working Group" (DSWG). Everyone is invited to use any of these materials as local solutions to a global problem. Information about the programs, resources and DSWG members is at [www.darksbiesawareness.org](http://www.darksbiesawareness.org).



### 3 Citizen-Science, Star-Hunting Programs Year-Round

The three star-hunting programs are fun citizen-science activities that encourage everyone — students, educators, astronomers and the general public — to

measure the darkness of their local skies and contribute their observations online to a world map. In the last few years these programs successfully conducted campaigns in which more than 35,000 observations were submitted from over 100 countries. During the IYA2009, citizen-scientists will take data on light pollution levels by comparing and matching what they see toward certain constellations with one of 7 star maps showing progressively fainter stars. For more precise measurements, digital sky-brightness meters can be used. With the location, time, date, measurements are submitted on-line from around the globe, and within weeks a world map showing the results is available. Together the three programs span the entire year: **GLOBE at Night** (March 16-28, 2009), **Great World Wide Star Count** (Oct. 9-23, 2009), **How Many Stars** (January, February, April through September, November and December), with websites at [www.globe.gov/GaNL/](http://www.globe.gov/GaNL/), [www.starcount.org](http://www.starcount.org), and [www.sternhell.at/](http://www.sternhell.at/), respectively.



### Quiet Skies

Radio Frequency Interference, or RFI, is the radio equivalent of light pollution. RFI effectively blinds radio telescopes at certain frequencies, making it impossible to study the Universe at those frequencies. The Quiet Skies project (led by the National Radio

Astronomy Observatory) introduces radio astronomy and the need for quiet skies to the public through 2 activities: one with an AM radio and the second with a kit loan program to schools, clubs and museums. Participants measure the RFI levels and with the second activity, enter their measurements into a database. The RFI results will be graphically displayed similar to the striking "Earth at Night" light pollution image. To learn more, visit [www.quietskies.org](http://www.quietskies.org).

### The Great Switch Out



The Great Switch Out program encourages homeowners to remove and replace their residential light fixtures with ones that are energy efficient and dark sky friendly. The International Dark-Sky Association (IDA) provides a Homeowner's Guide to Outdoor Lighting on fixture recommendations and suggestions for retail outlets at which to purchase these fixtures. For further information, visit [www.darksky.org](http://www.darksky.org), select "Best Choice Lighting" and then select "Homeowners Guide".



### On-line Interactions

MySpace and Facebook web pages introduce new audiences to dark-sky issues. The MySpace page on dark-sky preservation is [www.myspace.com/turndownthelight](http://www.myspace.com/turndownthelight). With a Second Life® (SL), adults can visit a recreation of Galileo's villa in Arcetri at [slurl.com/secondlife/NASA%20CoLab/151/100/702](http://slurl.com/secondlife/NASA%20CoLab/151/100/702). Above this platform in SL is an urban street scene ([slurl.com/secondlife/NASA%20CoLab/161/97/760](http://slurl.com/secondlife/NASA%20CoLab/161/97/760)) that allows visitors to switch between good and bad lighting to see the impact of their actions. These interim sites, hosted by NASA CoLab, will move to the IYA Island for 2009.



### Podcasts

People advocating dark skies preservation are invited to promote their dark skies programs, events, and resources by creating a 5-10 minute audio podcast to submit to the IYA "365 Days of Astronomy" podcasts. Sign up at [365DaysOfAstronomy.org/](http://365DaysOfAstronomy.org/).



### Displays, Posters and Brochures

These are wonderful ways for disseminating light pollution education to communities during public events. Topics covered are on good and bad lighting and on the effects of light pollution on wildlife, energy, astronomy, safety and glare control. The displays are available through the IDA at [www.darksky.org](http://www.darksky.org); select "Educators/Kids" and then select "IDA Displays". The posters and brochures are downloadable at home or local office supply stores for large scale versions and can be found off of the IDA home page at "Events" and then "IYA2009".



### Nights in the (National) Parks

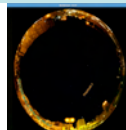
Throughout 2009, many national parks will be holding special programs in celebration of the International Year of Astronomy. Some of the last dark skies in the country can be found in our national parks, and the National Park

Service is proud to share the beauty and wonder of the night sky. While the starry canopy will take center stage, event activities are as diverse as the parks. Activities may include meteor watching, telescope viewing, solar viewing, instructional workshops, evening programs, night hikes, nocturnal wildlife watching, tips for protecting dark skies, & storytelling. Visit parks at [www.nps.gov](http://www.nps.gov) for more information.



### Dark Skies Discovery Sites

The Dark Skies Discovery Sites (DSDS) program seeks to establish permanent relatively dark locations where the public can be educated about light pollution while being introduced to the wonders of a fairly dark night sky. Astronomy clubs or individuals can earn the official DSDS designation for their location by agreeing to present, mostly at their own pace and schedule, an ongoing series of programs about light pollution. More information is at [www.darksbiesawareness.org](http://www.darksbiesawareness.org) and/or [www.astroleague.org](http://www.astroleague.org).



### Planetarium Program

Let There Be Night (LTBN) introduces students and adults to outdoor lighting issues in conjunction with IYA2009. The planetarium program allows them to experience the starry night that likely inspired the story of Day & Night from the Pacific Northwest Nations. With a dynamic demonstration in the dome, they will also witness how three aspects of outdoor lighting—glare, sky glow, and light trespass—degrade the night. They will describe the trade-offs of outdoor lighting and decide whether and how to act. The planetarium program segues to Orion and supports student participation in the GLOBE at Night star hunt. The LTBN 2-DVD set is also a collection of resources—videos, activities, songs, images, a website, and more—for dark sky advocates and anyone who would like to use the resources. Visit [www.LetThereBeNight.com/](http://www.LetThereBeNight.com/).



### Earth and Sky Photo Contest

The photography contest is open to any amateur photographer of any age, anywhere in the world. Photographs should focus on elements of the night sky (e.g., stars, planets, moon or celestial events) set against the backdrop of a beautiful, historic, or notable location or landmark. The special theme of this contest is "Dark Skies Importance"; so the image should try to impress people about how important and amazing the starry sky is, how it affects our life, and how bad the problem of light pollution has become. See [www.darksbiesawareness.org](http://www.darksbiesawareness.org) or [www.TWANight.org](http://www.TWANight.org) for more on the contest.



### Earth Hour

Millions of people in cities across the U.S. and around the globe turned their lights off for 1 hour on Saturday, March 29, 2008 to make an unprecedented and highly visible global statement in support for action on climate change, energy conservation & light pollution. The organizer, the World Wildlife Fund, is gearing up for next year's Earth Hour on March 28, 2009 from 8:30-9:30pm, on the last night of GLOBE at Night. More info at [www.EarthHour.org](http://www.EarthHour.org).



### International Dark Sky Week & the World Night

National Dark-Sky Week (NDSW) is an event usually occurring in April in the U.S., during which people are encouraged to turn out unnecessary outdoor lights to reduce light pollution. NDSW and the Starlight Initiative are collaborating in the launch of the "World Night in Defence of Starlight" as the first night of the International Dark Sky Week, April 20-26, 2009. For more information on how to participate, visit [www.starlight2007.net/20April2009.html](http://www.starlight2007.net/20April2009.html) and [www.ndsw.org/](http://www.ndsw.org/).



### International Dark Sky Communities, Parks & Reserves

To promote the establishment of special protection areas for natural night skies and to honor exceptional commitment to preservation of darkness, IDA with a number of international collaborators have established a certification program. See [www.darksky.org](http://www.darksky.org); select "Policy/Programs" and then IDS Communities, Parks and Reserves.



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